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Remarks on New Species of Australian Magpies, *G. longirostris*, Milligan, and *G. dorsalis*, Campbell, with Reflections on the Revision of the Genus *Gymnorhinæ*, Hall.

BY ED. DEGEN, PARSONS' GREEN, LONDON, S.W.

PERHAPS I should not at present have troubled ornithologists with anything from my side concerning these noble and most remarkable birds had it not been that an article appeared in the October number of *The Emu*, by Mr. A. W. Milligan, giving a description of what is claimed by him as a new species, hailing from Western Australia. In times gone by I had the rare privilege of personal acquaintance with the types of *G. dorsalis*, and retain the liveliest interest in everything bearing upon the life-history of so-called Magpies generally—birds so representative of the avifauna of the Australian bush.

By making the principal features laid down by Mr. Milligan for the diagnosis of the new species the subject of a closer scrutiny, one of the first and most important points is the remarkable coincidence in the longer bill claimed for the two Western Australian forms by both authors as distinguishing *G. longirostris* from *G. tibicen* in the one case, and *G. dorsalis* in the other, from the rest of the previously known standard forms of *Gymnorhinæ*.

The length of the bill of Mr. Milligan's *G. longirostris*, as measured along the culmen, is stated to range from 2.5 to 2.1 inches, in diminishing scale. Mr. Campbell's figures are for a male bird 2.3, and to within near 2.2 for a female. The measurements, therefore, for both these species, though slightly higher, by being absolute—that is, for 3 birds, 2 *longirostris* and 1 *dorsalis*—than either *leuconota* or *tibicen* (leaving *hyperleuca*, as a smaller race, out of consideration here), the remaining specimens of the so-called "long-billed" show no excess in length for the beak over some of *G. tibicen*, for which species 2.2 inches have been recorded. At the same time it should be admitted that the inferior measurements recorded by Mr. Milligan represent those of young individuals.

Like Mr. Milligan, I have no series of *G. leuconota* at my disposal

for examining this species as to the length of their bills; but I should in no way be surprised to find, if it were done, that a considerable percentage would prove to be possessed of bills fully as long as those mentioned and ascribed to the Western forms.

The endeavour to show the remarkable individual fluctuations, which range from 44 to 57 mm., as I have done on *G. tibicen*, apparently has borne no fruit, else the advisability of some allowance for this before a multiplication of species.

For purposes of comparison we are indebted to Mr. Milligan for the introduction of a photographic plate which accompanies the description of his new species. Its top space is occupied by the figure of the head of *G. longirostris*, and the bottom part by that of *G. tibicen*. The former shows it at a glance to be, as further pointed out by the author in the text, the not quite mature feathered but fully grown male, whose plumage was to shortly have been replaced through the impending moult. It is the abraded and thoroughly worn-out garb acquired during the moult of the previous season. The photograph, moreover, shows it, in an unmistakable manner, to be the dry specimen of a cabinet skin. This is revealed by the flatness of the crown of the head. In itself of no consequence and mattering little; but as among other things it is intended to show the relative differences and existing proportions in the distribution of the white and black portions between this species and *G. tibicen* depicted underneath it, the general outlines become much more dissimilar, as would have been the case had two specimens of a uniform condition been selected, instead of an overstuffed (to be detected in the greatly exaggerated orbits) specimen of the latter type. In the first instance—though not wholly, perhaps, but certainly very near the mark—the culmen of *G. longirostris* would in no wise appear to be so conspicuously straight as it now does by being continued in line over the crown of the head beyond its root, or the converse of it as seen in the artificial raising of the same in *G. tibicen*. In the same manner the depth of the bill at its base in the latter becomes greater in appearance as the soft parts situated between the lower mandibles are brought into greater prominence by being stuffed out, producing in this way the impression of an angle of a higher degree. But as the sheath covering the beak is subject to a perennial replacement too, a certain amount of atrophy through wear must be ascribed to it as having taken place, and this to some extent would help to produce a loss of the rotundity which is a characteristic feature after the renewal of the rhamphotheca, and as seen in the figure of *G. tibicen*, but absent in the specimen of *G. longirostris* figured above.

The thoroughly worn down condition of the plumage of the crown and nape, too, in a great measure would become responsible for the circular-shaped white patch appearing either enlarged, *i.e.*, reaching higher up the head portion, as pointed out, and further figured for *G. longirostris*; or reduced as discernible

from the figure of the head of the specimen of *G. tibicen*, the latter being in the prime condition of adult plumage.

Where, as happens in this case, the feathers of that portion of the nape which are black overlie the white ones, owing to this wear, which is greater at the tips, they being the most exposed parts, they lay bare a much greater area of the white feathers, which are white to their roots. Allowance also is required for the shifting and the displacement of whole sets of feathers in a specimen whose skin is dried only to serve for ordinary purposes, having myself frequently found some portions getting quite out of sight, others, perhaps, being made unduly prominent. Where, therefore, the leading characters for specification in a genus depend mainly on the relative distribution of only two colours, such as black and white, as in this case, too much stress should not be laid on the accuracy derived from surface-measurements taken on these portions and such as the black band on the back, &c.

The same remarks would apply to other parts in regard to absolute measurements—for instance, lengths of bills and tarsi—unless it were done only under positively analogous conditions. A measurement such, for instance, as one taken over the culmen of a bill may, with an equal amount of conscientiousness, become either 2.3 in the hands of the one taxonomist, as it is liable to become 2.15 inches in the hands of another, both being experts. An additional inch on a man's nose certainly would make an appreciable difference in his facial expression, but no one would on this account alone dispute his right for considering himself as belonging to the species *Homo sapiens*. To dilate any further on the validity of measurements after the results obtained for the individual fluctuations occurring in the lengths of their flight and other feathers, from a series of specimens belonging to a distinct species, and related elsewhere, seems futile, and the same would hold good for the tails, or, to be more accurate, tail-feathers. Such distinguishing characters as "tail is shorter," to say the least of it, are conceptions more than elastic. For example, I find that quite a number of *tibicen* have tails whose lengths exceed 5.5 inches according to whether we measure slack or full. Moreover, there is no sharply defined limit for the insertion of the rectrices, and much depends on whether we include the caudal vertebræ or not.

The last point, and one having possibly more weight in the determination of this new species, concerns the feathering of the legs, or "thighs," which is stated to be "white" in this case "for the upper half and inner sides" and "white with dark brown for the lower half of the outer sides." In *G. tibicen*, too, I find the inner sides clothed with white feathers, and several amongst them are "noticeable" equally in regard to their lower portion.

On the whole, I do not think the separation of this Western form of *G. tibicen* as a distinct species a sufficiently and conclus-

ively warrantable procedure on the grounds upon which Mr. Milligan constructs its type. And by attempting to supplement analogies on hand of a larger stock of material of Mr. Campbell's Western Australian species, *G. dorsalis*, by referring to the tail-band of the latter, he shakes the very foundations upon which he based his own. Why he here comes to the conclusion that its narrowness, or otherwise, is simply a matter of age, evidence of which he quotes of two fully adult, and another one equally so but with insufficiently mature plumage, in which the tail-band is larger, and still more so in three other decidedly young birds, is not quite comprehensible.

I have myself never entertained any other opinion on this point, and have given ample reasons in some other place for my views on the acquisition of the fully-matured garb—viz., a progressive development by means of a series of moults. And this is the very reason why Mr. Milligan does not seem to be able to agree with Mr. Campbell about the "mottled" condition of the wing edges in the latter's *G. dorsalis*, he finding these of a pure white in his own skins of *G. dorsalis*.

As pointed out by Mr. Robert Hall, and since acknowledged by the author himself, Mr. Campbell's typical female bird is not a fully adult specimen, an opinion to which I gave expression then, when I had the privilege of handling the specimen.

Mr. Milligan's remarks on the colouring of the stems of the feathers to which he refers as a "noteworthy feature" in these Western birds, is debatable too, as this distribution applies to the shafts the same as it does to the barbs, it being merely a matter of development, and subject to age, and is in no way exceptional from the other species. A specimen of *G. leucanota* in my possession sufficiently shows this to be the case, where the conditions are similar as those mentioned for *G. longirostris*. Without wishing to impair in the slightest the admissibility of this Western form of bird, described by Mr. Milligan, as a distinct species, any more than he does it himself in regard to Mr. Campbell's *G. dorsalis*, no serious harm is done by recommending the utmost caution in a genus in which the effect of hybridization or albinism cannot easily be traced, blending, as it must do of necessity, with no other colours than black and white, of which latter the question will remain a study for a long time to come. For instance, on very little better grounds, except for its smaller dimensions, *G. hyperleuca*, confined to Tasmania, has so far found grace to be considered as a species, although to this day it has not freed itself entirely from the suspicion of a "race only." And with this we find ourselves involuntarily drawn towards that tricky ground, their geographical distribution. *G. longirostris*, so far as ascertained by Mr. Milligan's present material, is recorded from the north-western territories of Western Australia, the districts adjacent to the Ashburton River. It has a decided flavour of *G. tibicen* for its colour distribution in both the adults and the young of the two sexes. On the other hand,

Mr. Campbell has acquainted us that *G. dorsalis* occurs in the districts lying chiefly to the south-west. With the exception of the bill, again, which in the latter species is more curved, we once more behold in the adult male merely another edition of *G. leuconota*, and for the female we have something like a good imitation of *G. tibicen* for the distribution of the black and white portions of the back. As at the time of Mr. Campbell's description no existence of any other species—barring his remark, based on report only, from Hammersley Range—was recorded from Western Australia, with the exception of the bird mentioned by Gould from the Swan River, which the latter author queried as *tibicen*, it now would appear that Gould had to deal probably with a specimen akin to one of those described by Mr. Milligan, in which the black band occupies a narrower space. And this would strongly account for the fact of Dr. E. P. Ramsay's wavering whether to let it stand as *G. tibicen*, on second thoughts, or on a further revision to transfer it as doubtful to *G. leuconota*, as he did per list of 1888.

If it eventually can be proved that the longer bill is a constant character, whether linear as observed for *G. longirostris*, or more constantly curved in *G. dorsalis* than in *G. leuconota*, much of the complexity attending the problem of this genus will be removed, but not before. Evidence is not lacking, through the introduction of these two Western forms, that somewhere due west an intermingling of the two standard forms—viz., *G. tibicen* and *G. leuconota*—has taken place, and as a direct consequence of this fusion difformity of the bill may have to be reckoned with as one of its results. How much more portions of white or lighter colour, which, with a more complete knowledge of the range and habitats of this genus, correspondingly seems to become a more conspicuous feature, may be due to albinism, there is at present no means of verification, and this quantity in its specific estimation should not be neglected either, as may be seen from remarks on this subject in connection with the observations made on the decadency of the Pheasant in England, taken from *The Daily News* (12/10/01), as follow:—

“Can it be that our English game is getting decadent? Can the artificiality of our Pheasant-rearing and Pheasant-feeding have reached a point that they are at last showing their ill results? The question is asked not with reference to the flesh of the birds, but to their plumage. As to the flesh there is, indeed, little doubt of the answer that should be given. We seem almost to have lost the game bird of thirty or forty years ago. The modern Pheasant is very little removed from the ordinary barn-door fowl. The flavour of his cramming is strong, or, rather, is feeble and insipid, upon him. He tastes of grain and chicken food. It is the price the consumer pays for his abundance in the market. He has ceased to have the quality *feræ naturæ*. Anyone who has tasted a Pheasant shot, say, in the wild parts of Ireland, will admit what a good judge the wild bird is of the food which agrees

with it. The true gamey flavour is not to be mistaken. But has the decadence reached the plumage also? One is certainly struck with the number of white feathers in the festoons of Pheasants over the poulterers' windows this season, and we know the inferences from albinism. It is, of course, true that the Pheasant who shows the white feather is singled out and ruthlessly shot by the keeper. The keeper's motive has, indeed, nothing in common with the theories of Dr. Nordau. His resentment is supported by reasons much less recondite. Whitish birds are conspicuous in the dusk, and a temptation to the poacher and the night marauder. So they are shot as early as possible in the season. It is a plausible explanation. But, all the same, is albinism on the increase?"

By calling attention to this and many other points I am very pleased to find myself fully in accord with the views held by Mr. Hall, who on p. 2 of his article (*l.c.*) remarks:—"The principal plumage-phases of *all* the *Gymnorhinæ* appear in *G. dorsalis*." But when it comes to the question of origin and subsequent divergence in the present forms of *Gymnorhinæ*, I, like the critic of Mr. Hall's article in vol. i. of *The Emu*, p. 30, am unable to accept his reasoning, notably in regard to his "evolution" of these from a "hypothetical purely black ancestor in a direct line." To many it must seem a little paradoxical that nature should have chosen the unreasonable and totally unaccountable course of creating a species directly evolved from a totally black ancestor with the greatest amount of white first—viz., *G. leuconota*—in order to reverse it again for the establishment of such a typical form as *G. tibicen*, when this accomplishment lay in her direct path. But in order to assuage the unpleasant taste which a strong medicine leaves behind on the palate of the student of nature, he immediately supplies the palliative for it when on p. 3 (*l.c.*) he defines his *reversion* as meaning "mostly plumage development from a black to white back, which works in all."

In regard to the question of priority of the vernacular name "Long-billed," which Mr. Milligan also claims for his newly-described bird, it may be said that to the uninitiated it seems but common logic that he should propose to Mr. Campbell to waive his rights after the latter author having "check-listed" his *G. dorsalis* "Long-billed," by further endorsing his claim for being based on the literally translated equivalent of the scientific term "*longirostris*." He thus proposes to him to name it henceforth the "Varied-backed" Magpie in accordance with its technical description, *G. "dorsalis*." Time was—that, however, before I had an opportunity of becoming acquainted with the great individual differences existing in regard to the length of the bill—when I seemed to be impressed much more with the character as seemingly valid than I am now with that of the dorsal colour-variation. I therefore take the opportunity of repeating here what I suggested then in the course of discussion on the subject with Mr. Campbell—viz., to name his bird *G. longi-*

rostris, as being more in accord with what then appeared to be the stronger feature—which view he only reluctantly seemed to share. In retaining *dorsalis* as a specific designation Mr. Campbell showed great foresight, and adopted a course which he has no reason now to regret. But how the case would stand now for Mr. Milligan's species had Mr. Campbell acted on my suggestion is easy to perceive, for then Mr. Milligan could not have had recourse to either the vernacular term "*Long-billed*" or the scientific equivalent "*longirostris*," this latter having in the above supposed case already been occupied by Mr. Campbell. There would then have remained no other alternative to Mr. Milligan, giving his new Western form a specific name based upon taxonomic features exclusively, than to fall back upon that which has reference to the quondam characters next most strongly assigned to it, to be henceforth known perhaps as *G. albicruralis*, or the "White-legged Magpie" of Australian vernacular celebrity.

Birds Occurring in the Region of the North-West Cape.

BY THOMAS CARTER.

PART IV. (conclusion).

(138.) HYDROCHELIDON HYBRIDA (Marsh Tern).—This species was only observed during two years—viz., 1898, when considerable numbers were seen at a flooded white gum flat about 25 miles inland from Point Cloates. This flat was again filled with water in the record wet season of 1900, and larger flocks were seen there in April, but the birds did not breed, as I had hoped. A few were also seen in July at the Maud's Landing salt-marsh, where was a large sheet of water.

(139.) GELOCHELIDON ANGLICA (Gull-billed Tern).—This Tern was only once recorded—viz., in May, 1900. On the 1st of that month about five pairs were seen on the flooded marsh at Maud's Landing. Two nests (though they were hardly worthy of that name) were found on one of the low islands, each containing one egg. Two specimens of the birds were shot for identification. One had been feeding almost entirely on grasshoppers, the other on small lizards.

(140.) HYDROPROGNE CASPIA (Caspian Tern).—Resident, and not uncommon on the coast, but not seen in numbers in any one place, one or two pairs only frequenting each sandy spit or small island, where their loud, harsh notes usually revealed the presence of their eggs or young. 21st September, 1890, young in nest about seven days of age. 25th August, 1891, young birds noted about half grown. 25th March, 1893, natives brought in several eggs from Frazer Island. 5th August, 1894, 16th September, 1894, 9th November, 1894, two eggs in nest on each date. 3rd May, 1896, two eggs seen. So these birds have no regular laying season.

(141.) STERNA DOUGALLI (Roseate Tern).—Not uncommon in the summer months at Frazer Island and sandy points of the mainland. Several clutches of eggs, much incubated, were found on Frazer Island, 12th November, 1893.